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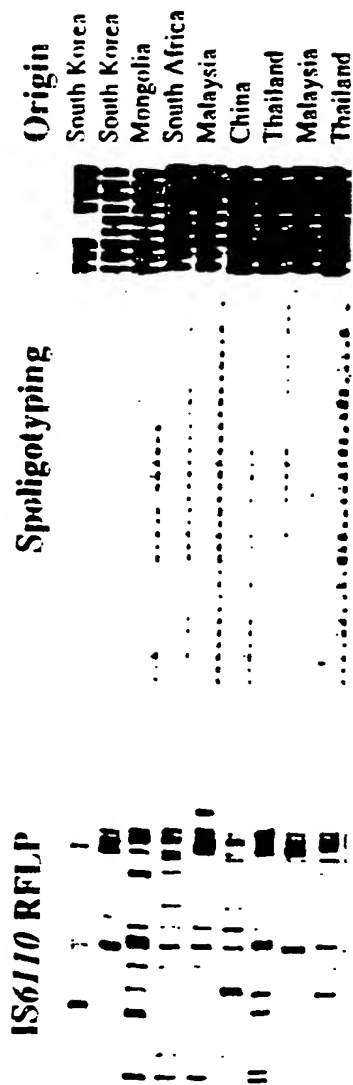


Figure 1: Characteristic patterns of *M. tuberculosis* Beijing genotype strains

FIGURE 2AalkA: *M. tuberculosis*

ttgggtcaacaagtctcgaggggggacgcgctcgct
aaccatcttcggcgccccgaaccggcttccctgtcccga
agacaaggcactggccgcccgcgcggcgatagccgatcg
gctgggtcaacgaaatgcccagtgccaggccgggatcgg
cgtggcgggcgggcagggtcattgccggcaacgtgggtgc
ccgagaacggttcgagtacaccgtgatcggggagccggt
caacgaggcgggcccgattgtgcgaactggccaaatcgcg
tcccggcaagtgtgtggttcggcacaggccgtggacgc
cgcaagcgaagaggagcgcgcccggttggtctttgggtag
gcatgtgaaacttcgtgggcacgaccaaccgggtccggt
ggccaagccggtcgggtgaccaagccgcgtaggttaacc
tgcccgaaaccacgacgaccccatcacaatgtcgttttt
ccgccagtcatgtcgggtgggcgggtgtaattgttgaagg

1 - gtg cac gac gac ttc gaa cgc tgc tac cgg
31 - gcg atc cag tcc aaa gac gcc cgg ttc gac
61 - ggc tgg ttc gtc gtc gcg gtt ttg acc acc
91 - ggt gtc tac tgc cgg ccg agt tgc ccc gtc
121 - cgg cca ccg ttc gcg cgc aat gtc cgg ttc
151 - ctg ccg act gcg gcg gcc gct cag ggg gag
181 - gga ttc cgg gcc tgc aaa cgg tgc cgc ccc
211 - gac gcc tcg cct ggg tct ccg gaa tgg aat
241 - gtg cgt agt gac gtc gtg gcg cgg gcg atg
271 - cgg ctg att gcc gac gga acg gtg gac cgc
301 - gac ggt gtc agc ggc ctc gcg gcc cag ctc
331 - ggt tac acc att cgc cag ctg gag cgg ctg
361 - ttg cag gcc gtg gtc ggc gcc ggt ccg ctc
391 - gcg ttg gcc cgc gcc caa cgc atg cag acc
421 - gcc cgg gtg ctg atc gag acc acg aac ctg
451 - ccg ttc ggc gat gtc gca ttc gcc gcc ggg
481 - ttt tcc agc atc cgt cag ttc aac gac acc
511 - gtt cgc ctg gcg tgc gac ggc aca ccg acg
541 - gca ttg cgt gcg cgc gcg gcc gcc cga ttc
571 - gag tct gcc acc gca tca gcg ggc acg gtg
601 - tcg ctg cgg cta ccc gtc cgt gca cca ttc
631 - gcc ttc gag ggt gtt ttc ggc cat ctg gcc
661 - gcc acc gcg gtg ccg ggt tgc gaa gag gtc
691 - cgc gat ggt gcg tac cga cgc acg cta cgg
721 - ctc cca tgg ggc aac ggc atc gtc agc ctg
751 - acg ccg gca ccc gat cat gtg cgc tgc ctg
781 - ctt gtg ctc gat gat ttc cgc gac ctg atg
811 - acg gcc act gca cgt tgc cga cgg ctg ctg
841 - gac ctc gac gcc gat ccc gaa gcg atc gtc
871 - gag gcg ctg ggc gcc gat ccg gat ctg cgc
901 - gca gtg gtg ggc aag gca ccc ggg caa cgc
931 - att ccc cgc aca gtc gac gag gca gaa ttc
961 - gcc gtg cgg gcg gtc ctc gcc caa cag gta
991 - tcg acg aag gcc gca agc act cac gcg ggc
1021 - cga ctg gtc gcc gcc tac gga cgg ccg gtc
1051 - cac gat cgc cac ggc gct ttg acc cac acc
1081 - ttc ccg tcg atc gag cag ctc gct gag atc
1111 - gat ccc ggc cat ctg gcc gtc ccc aag gcg
1141 - cgt caa agg acc ata aac gcg ctc gtc gcc
1171 - agc ctt gcc gac aaa agt ctg gtc ctg gac
1201 - gcc gga tgt gac tgg caa cgc gcc cgc ggg
1231 - cag ttg cta gcg ctg ccc gga gtg ggc ccc
1261 - tgg acc gcg gag gtc atc gcc atg cgc ggc
1291 - ctc ggt gac ccg gac gcc ttt ccg gcc agt

SEQ ID NO: 17

Location (from Cole
et al.; Nature)

F (SEQ ID NO: 5)

FIGURE 2B

1321 - gat ctc ggc ctg cgg ctg gcc gcc aaa aag
1351 - ctg ggc ctg cct gca caa cga cga gcc ctg
1381 - acg gtg cac agc gct cgc tgg cgc ccc tgg
1411 - cgc tcc tat gcc acc cag cac ctg tgg acc
1441 - acc ctg gaa cat ccg gta aac caa tgg cca
1471 - ccg cag gag aag atc gca
tgattcactaccgcaccatcgatagccccatcgggcat
taaccctggcgggcatggctcgggtgttgacgaacctgc
ggatgctcgaacgagacgtatgagccaagccgcacacact
ggacacccgaccccggcgcattttctggcgtgtcgacc
aactcaacgcttatttcgccggcgagctcaccgaattcg
atgtggaacttgacctccggggaaccgactttcagcaac
gagtatggaaaagcattgctgacaatcccgtacggggaaa
cccggtcctacggggaaatcgccgaccagatcggcgccc
ccggcgccgcacgcgcctggtgggattggccaacggccaca
atcccatcgccatcctcgtcccgtgccaccgcgtgatcg
gcgccagcggaaaagctcaccgggtacggcggtggaatca
accggaacgagctctgctcgagttggagaaaagccggg
cgccgcgagacttgacgctcttcgactgagcg

R (SEQ ID NO: 6)

FIGURE 2C

>alkA ORF: 1488 bp - M. tuberculosis -
gtgcacgacgacttcgaacgctgctaccgggcgatccagtcctaaagacgcccgggttcgac
ggctgggttcgtcgctcgcggttttgaccaccgggtgtctactgccggccgagttgccccgtc
cggccaccggttcgcgcgcaatgtccggttcctgccgactgcggcgccgctcaggggag
ggattccgggctgcaaacgggtgcgcgccccgacgcctcgctgggtctccggaatggaat
gtgcgtagtgacgtcgtggcgggcgatgcggctgattgccgacggaacgggtggaccgc
gacgggtgtcagcggcctcgcgccccagctcggttacaccattcgccagctggagcggctg
ttgcaggccgctggctcgcgccggtccgctcgctgtggccccgcgccccaacgcatgcagacc
gccccgggtgctgctgagaccacgaacctgccgttcggcgatgtcgcattcgccgccccgg
ttttccagcatccgtcagttcaacgacaccgttcgcctggcggtgcgacggcacaccgacg
gcattgcgtgcgcgcgcgcgccccgattcgagtcctgccaccgcatcagcgggacgggtg
tcgctgcggctaccggtccgtgcaccattcgcttcgaggggtgttttcggccatctggcc
gccaccgcgggtgccgggttgcaagaggtccgcgatgggtgcgtaccgacgcacgctacgg
ctcccatggggcaacggcatcgtcagcctgacgcggcacccgatcatgtgcgctgcctg
cttgtgctcgatgatattccgcgacctgatgacggccactgcacgttgccgacggctgctg
gacctcgacgccgatcccgaagcgatcgtcgaggcgctggcgccgatccggatctgcgc
gcagtggtgggcaaggcacccgggcaacgcattccccgcacagtcgacgaggcagaattc
gccgtgcgggcggtcctcgcccaacaggtatcgacgaaggccgcaagcactcacgcgggc
cgactggctgcgcgctacggacggcggtccacgatcgccacggcgctttgacccacacc
ttcccgctcgatcgagcagctcgctgagatcgatccccggccatctggccgtccccaaaggcg
cgtcaaaggaccataaacgcgctcgtcgccgccggatgtgactggcaacgcgcccgcggg
cagttgctagcgctgcccggagtgggcccctggaccgcggaggtcatcgccatgcgcggc
ctcggtgacccggacgcctttccggccagtgatctcggcctgcggctggccgcaaaaag
ctgggcctgcctgcacaacgacgagccctgacgggtgcacagcgctcgctggcgcccctgg
cgctcctatgccacccagcacctgtggaccaccctggaacatccgggtaaaccaatggcca
ccgcaggagaaagatcgca

SEQ ID

NO: 27

FIGURE 3A

ogt: M. tuberculosis

ggcct
 cggtgacccggagcgcctttccggccagtgatctcggcct
 gcggctggccgccaataagctgggctgcctgcacaacg
 acgagccctgacggtgcacagcctcgcctggcctccctg
 gcgctcctatgccaccacagcacctgtggaccaccctgga
 acatccggtaaaccnatggccaccgcaggagaagatcgc
 1 - atg att cac tac cgc acc atc gat agc ccc
 31 - atc ggg cca tta acc ctg gcc ggg cat ggc
 61 - tcg gtg ttg acg aac ctg cgg atg ctc gag
 91 - cag acg tat gag cca agc cgc aca cac tgg
 121 - aca ccc gac ccc ggc gca ttt tct ggc gct
 151 - gtc gac caa ctc aac gct tat ttc gcc ggc
 181 - gag ctc acc gaa ttc gat gtg gaa ctt gac
 211 - ctc cgg gga acc gac ttt cag caa cga gta
 241 - tgg aaa gca ttg ctg aca atc ccg tac ggg
 271 - gaa acc cgg tcc tac ggg gaa atc gcc gac
 301 - cag atc ggc gcc ccc ggc gcc gca cgc gcc
 331 - gtg gga ttg gcc aac ggc cac aat ccc atc
 361 - gcc atc atc gtc ccg tgc cac cgc gtg atc
 391 - ggc gcc agc gga aag ctc acc ggg tac ggc
 421 - ggt gga atc aac cgg aaa cga gct ctg ctc
 451 - gag ttg gag aaa agc cgg gcg ccc gca gac
 481 - ttg acg ctc ttc gac
 tgagcgcctccgcgcgagggatcgctcattgcgaaaa
 tcgaagccataattcgccgcctcgcgagcggctgagtcg
 atataaacatacaaaaaacaccacggttaccgggggtgtt
 ttgtatgttcggcggtgtcctacttttccaccgcggagg
 ggcagtatcatcgccgctggcaggcttagcttcgggtt
 cgaa

F (SEQ ID NO: 7)

SEQ ID NO: 18

Location 1=1.477.137

R (SEQ ID NO: 8)

FIGURE 3B

>orf ORF: 495 bp - M. tuberculosis -
atgattcactacgcaccatcgatagccccatcgggccattaaccctggccgggcatggc
tcggtgttgacgaacctgcggatgctcgagcagacgtatgagccaagccgcacacactgg
acacccgaccccggcgcattttctggcgctgtcgaccaactcaacgcttatttcgccggc
gagctcaccgaattcgatgtggaacttgacctccgggggaaccgactttcagcaacgagta
tggaaagcattgctgacaatcccgtacggggaaaacccggctctacggggaaatcgccgac
cagatcggcgccccggcgccgcacgcgcgtgggattggccaacggccacaatcccatc
gccatcatcgctcccgtgccaccgcgtgatcggcgccagcggaaagctcaccgggtacggc
gggtggaatcaaccggaaacgagctctgctcgagttggagaaaagcggggcggccgcagac
ttgaacgctcttcgac

SEQ ID

NO: 28

FIGURE 4A

mutT2: M. tuberculosis

gatgt

F (SEQ ID NO: 1)

ccggaatgatgattttacctcctcggctcgctcggccaccc
 ggcgtaacggcgctcgataaccggccataaacgctcggaact
 tgattgacctacgcaggacaccacggcgctgccagc
 cggttgaggtcggtgcagtgcggtcgacgtgctcatccg
 ttaacacagccatacctcgacgggtataccgtcacaggtc

SEQ ID NO: 19

Location 1=1.286.595

1 - atg ctg aat cag atc gtg gtt gcc gga gcc
 31 - atc gtc cgc ggt tgc acg gtc ttg gtg gcg
 61 - caa cgc gtt cgg cca ccg gag ttg gcg ggt
 91 - cgt tgg gaa ctt ccc ggc ggt aag gtc gcc
 121 - gcc ggc gaa acc gag cgc gcc gcg ctg gcc
 151 - cga gag ctc gcc gaa gaa ctg gga ctc gag
 181 - gtc gcc gac ctc gcg gtg ggc gac cgt gtg
 211 - ggc gac gat att gcg ttg aac ggc acg acg
 241 - acg ctg cgg gcc tat cgc gtg cat ctg ctt
 271 - ggc ggc gaa ccg cgt gcg cgt gac cac cgg
 301 - gcg ctg tgc tgg gtg acg gcg gcc gaa ctg
 331 - cac gat gtc gac tgg gta cca gcc gac cgc
 361 - ggc tgg att gcg gac ctg gcg cga acc ctc
 391 - aac ggg tcc gcc gca gat gtc cac cgt cgc
 421 - tgt

taggaaaccgacggtgtggttgacggtggccgcggtcaa
 cttggttagaacaacgtgacaaaacgttaacttgggttt
 gcatgcccgtagcgattacgatggttttctggacgcgtg
 gcgacaacttccggycaggacgtgacgccatecatcg
 agatacccgatgttg-cgagaggggtccccgacccggcg
 gaccg

R (SEQ ID NO: 2)

FIGURE 4B

>mutT2 ORF: 423 bp - M. tuberculosis -
atgctgaatcagatcgtggttgccggagccatcgctccgcggttgccacggtcttggtggcg
caacgcgttcggccaccggagttggcgggtcggtgggaacttcccggcggttaaggctcgcc
gccggcgaaaccgagcgcgcgcgctggcccgagagctcgccgaagaactgggactcgag
gtcgccgacctcgcggtgggcgaccgtgtgggcgacgatattgcgttgaacggcacgacg
acgctgcgggcctatcgcgctgcattctgcttggcggcgaaccgcgtgcgctgaccaccgg
gcgctgtgctgggtgacggcgccgaactgcacgatgtcgactgggtaccagccgaccgc
ggctggattgcggacctggcgcgaaccctcaacgggtccgccgcagatgtccaccgtcgc
tgt

SEQ ID

NO: 29

FIGURE 5ARv3908: *M. tuberculosis*

tgtcg

ctcqaagggtgggcaaatacgtgcgccccgcacacagcgac
 ttctgtgatagatgtgactggcgcgactcaatttggtcag
 cgcggtcgccctgcacgccccgctccctcgcccaacga
 ataagtcctggccgacgatggcgctcagacggcgagta
 catcggaacacccgcccgtaccagctactatcgctggg

1 - gtg tcc gac ggc gaa caa gcc aaa tca cgt
 31 - cga cgc cgg ggg cgg cgc cgc ggg cgg cgc
 61 - gct gcg gct aca gcc gag aat cac atg gac
 91 - gcc caa ccg gcc ggc gac gcc acc ccg acc
 121 - ccg gca acg gcg aag cgg tcc cgg tcc cgc
 151 - tca cct cgt cgc ggg tcg act cgg atg cgc
 181 - acc gtg cac gaa aca tcg gct gga ggg ttg
 211 - gtc att gac ggt atc gac ggt cca cga gac
 241 - gcg cag gtc gcg gct ctg atc ggc cgc gtc
 271 - gac cgg cgc ggc cgg ctg ctg tgg tcg cta
 301 - ccc aag ggg cac atc gag ttg ggc gag acc
 331 - gcc gag cag acc gcc atc cgc gag gtc gcc
 361 - gag gag acc ggc atc cgc ggc agt gtg ctc
 391 - gcc gcg ctg ggg cgc atc gac tac tgg ttc
 421 - gtc acc gac ggc cgg cgg gtg cac aag acc
 451 - gtc cac cat tat ttg atg cgg ttt tta ggc
 481 - gga gag ctg tcc gac gaa gac ctc gag gta
 511 - gcc gag gta gcc tgg gtg ccg atc cgg gaa
 541 - ctg ccg tct cga ctg gcc tac gcc gac gaa
 571 - cgt cga cta gcc gag gtg gcc gac gaa ctg
 601 - atc gac aag ctg cag agc gac ggc ccc gcc
 631 - gcg ctt ccg ccg cta cca ccc agc tcg cct
 661 - cgt cga cgg ccg caa acg cat tca cgc gct
 691 - cgt cat gcc gat gac tca gca ccg ggt cag
 721 - cac aac ggt ccc ggg ccg ggg ccg

tgaccgcactgcaactcggctgggcccgtttggcgcgcg
 tcacctcagcgatcggcgctcgtggccggcctcgggatgg
 cgctcacgggtaccgtcggcggcaccgcacgcgctcgag
 gcgagcccagcccagcgccttttgtccaggtccgcacg
 atcaggtgaccccgacgtggtgaccacttcagcgaac
cccat

F (SEQ ID NO: 3)

SEQ ID NO: 20

Location 1=4.393.449

R (SEQ ID NO: 4)

FIGURE 5B

>Rv3908 ORF: 744 bp - M. tuberculosis -
gtgtccgacggcgaaacaagccaaatcacgtcgacgccggggcgccgcccggcgccgc
gctgcggttacagccgagaatcacatggacgcccaccggccggcgacgccaccccgacc
ccggcaacggcgaaagcgggtcccgggtcccgtcacctcgtcgcggtcgactcggtatgcgc
accgtgcacgaaacatcgggtggaggggttggtcattgacgggtatcgacgggtccacgagac
gcgcaggtcgcggtctctgatcggccgcgtcgaccggcgcgccgggtgctgtggtcgcta
cccaaggggacatcgagttgggcgagaccgcccagcagaccgccatccgcgaggtcgcc
gaggagaccggcatccgcggcagtggtgctcgccgcgtggggcgcatcgactactggttc
gtcaccgacggccggcggggtgcacaagaccgtccaccattatttgatcgggtttttaggc
ggagagctgtccgacgaagacctcgaggtagccgaggtagcctgggtgccgatccgggaa
ctgccgtctcgactggcctacgcccagacgaacgtcgactagccgaggtggccgacgaactg
atcgacaagctgcagagcgacggccccgcgcgttccgccgctaccacccagctcgct
cgtcgacggccgcaaacgcattcacgcgctcgtcatgccgatgactcagcacccgggtcag
cacaacgggtcccgggcccgggccc

SEQ ID

NO: 30

FIGURE 6AmutY: *M. tuberculosis*

cgccc
 aggccttggtcgaagatgatctcagcgccactcggctg
 tccgcgcagccgaagatcaccgccgtgggtcttctgcccg
 gcggccaagccgggtcgggtggtcgacgctctgactggga
 tgctggggccggccggcgacgaatcgctcgttaccctct
 ttgagtgcctttccacgcgggtaccggattgggtgttgggc
 1 - atg cct cac ata ctg ccg gaa ccg tcg gtg
 31 - acc ggc ccg cga cac ata tca gat acc aat
 61 - ctt ctc gct tgg tat cag cga tcg cac cgg
 91 - gat ctg ccc tgg cga gag ccc ggt gtc agc
 121 - ccg tgg cag atc ctg gtc agc gag ttc atg
 151 - ctg cag cag acg ccg gcc gcc cgg gtg ctg
 181 - gcg atc tgg ccg gac tgg gtg cgg cgg tgg
 211 - ccc acg ccg tcg gcc acc gcc acg gcc agc
 241 - acc gcc gat gtg tta cgc gcc tgg ggc aag
 271 - cta ggc tat ccc agg cga gcc aag cgc tta
 301 - cac gag tgc gcc acc gtc atc gcc cgc gac
 331 - cac aat gac gtg gtg ccc gac gat atc gag
 361 - atc ctg gtc acc ctg ccg ggc gtc ggg agc
 391 - tac acc gcg cgc gcg gtg gcg tgt ttc gct
 421 - tac cgc cag cgg gtg ccg gtg gtg gac acc
 451 - aat gtg cgg cgc gtg gtg gcc cgc gcc gtt
 481 - cac ggc cgc gcc gac gcc ggt gcg cca tcg
 511 - gtg ccg cgc gac cac gcc gac gtc ttg gcg
 541 - ctg ttg ccg cac cgc gag acg gcg cct gaa
 571 - ttt tcg gtc gcg ctg atg gag ttg ggt gcg
 601 - acg gtg tgc acc gcc cgc aca ccc cgg tgc
 631 - ggg tta tgc ccg ctg gac tgg tgc gca tgg
 661 - cgg cat gcc ggt tat ccg ccg tcg gac ggt
 691 - ccg ccg cgc cgg ggg cag gcc tac acc gga
 721 - acc gac cgc caa gtc cgc gga cgg tta ctg
 751 - gat gtg ttg cgc gcc gcg gag ttt ccc gtc
 781 - acc cgg gcc gag ttg gac gtg gcg tgg ctg
 811 - acc gat acc gca cag cgt gac cgg gcg ctg
 841 - gag tcg ctg ctg gcc gat gcg ctg gtg acc
 871 - cgg acg gtc gat ggc cgg ttc gcg ttg ccc
 901 - ggc gaa ggg ttt
 tagccgggtaggccgtccgcaccggcgccgaaaccg
 ccgggatcaccggggtgcccgcgacgactgtcccagct
 ccgcggcgccaccgcgcgcagcgccggcacct
 ccttgcccccggtaccgcccgcaccgtggacacctggc
 tggctgaacattccggcacctccgcccgcacctccggca
 ccgcc

F (SEQ ID NO: 9)

SEQ ID NO: 21

Location 1=4.030.493

R (SEQ ID NO: 10)

FIGURE 6B

>mutY ORF: 912 bp - M. tuberculosis -
atgcctcacatactgccggaaccgtcggtagccggcccgcgacacatatcagataccaat
cttctcgtttggtatcagcgatcgacccgggatctgccctggcgagagcccggtgtcagc
ccgtggcagatcctgggtcagcgagttcatgctgcagcagacgccggcccgccgggtgctg
gcgatctggccggactgggtgcggcggtggcccacgccgtcggccaccgccacggccagc
accgccgatgtgttacgcgcctggggcaagctgggctatcccaggcgagccaagcgctta
cacgagtgcgccaccgtcatcgcccgcgaccacaatgacgtgggtgcccgcgatatcgag
atcctgggtcacccctgccggggtcgggagctacaccgcgcgcgggtggcggtgttcgct
taccgccagcgggtgcccgtgggtggacaccaatgtgcggcgcggtgggtggcccgccggtt
cacggccgcgcgcgacgccgggtgcgccatcggtgccgcgcgaccacgccgacgtcttggcg
ctgttgccgcaccgcgagacggcgccctgaattttcggtcgcgctgatggagttgggtgcg
acgggtgtgcaccgcccgcacaccccggtgcgggttatgcccgctggactgggtgcgcatgg
cggcatgccgggttatccgcgctcgacgggtccgcgcgcggggggcaggcctacaccgga
accgaccgccaagtccgcggacgggttactggatgtgttgccgcgcgcggagtttccgctc
accggggccgagttggacgtggcggtggctgaccgataccgcacagcgtgacggggcgctg
gagtcgctgctggccgatgcgctgggtgacccggacgggtcgatggccgggttcgcttgccc
ggcgaagggttt

SEQ ID

NO: 31

FIGURE 7ARv3909: *M. tuberculosis*

ccgtc
 tcgactggcctacgcccagacgaacgtcgactagccgaggt
 ggccgacgaaactgatcgacaagctgcagagcgacggccc
 cgccgcgcttccgcccgtaccaccagctcgccctcgctc
 acggccgcaaacgcattcagcgctcgtcatgcccgatga
 ctcagcacccgggtcagcaccaacgggtccggggccggggcc
 1 - gtg acc gca ctg caa etc ggc tgg gcc gct
 31 - ttg gcg cgc gtc acc tca gcg atc ggc gtc
 61 - gtg gcc ggc ctc ggg atg gcg ctc acg gta
 91 - ccg tcg gcg gca ccg cac gcg ctc gca ggc
 121 - gag ccc agc ccg acg cct ttt gtc cag gtc
 151 - cgc atc gat cag gtg acc ccg gac gtg gtg
 181 - acc act tcc agc gaa ccc cat gtc acc gtc
 211 - agc gga acg gtg acc aat acc ggt gac cgc
 241 - cca gtc cgc gat gtg atg gtc cgg ctt gag
 271 - cac gcc gcc gcg ytc acg tcg tca acg gcg
 301 - tta cgc acc tcg ctc gac ggc ggc acc gac
 331 - cag tac cag ccg gcc gcg gac ttc ctc acg
 361 - gtc gcc ccc gaa cta gac cgc ggg caa gag
 391 - gcc ggc ttt acc ctc tcg gcc ccg ctg cgc
 421 - tcg ctg acc agg ccg tcg ttg gcc gtc aac
 451 - cag ccc ggg atc tac ccg gtc ctg gtc aac
 481 - gtc aat ggg aca ccc gac tac ggt gcg cct
 511 - gcg cgg ctc gac aat gcg cgg ttc ctg ttg
 541 - ccc gtg gtc gga gtg cca ccc gac cag gcc
 571 - acc gac ttc ggc tcc gct gtt gca cca gaa
 601 - acg acg gcg ccg gtc tgg atc acc atg ctg
 631 - tgg ccg ctg gcc gac cgg ccc cgg ttg gcc
 661 - ccc ggg gca ccc ggt ggc acc gtt ccc gtc
 691 - cgg ctg gtc gac gac gac ctg gca aac tcg
 721 - ctg gcc aac ggc ggc cgg ctg gac atc ctc
 751 - ctg tcg gcg gcc gag ttc gcc acc aac cgg
 781 - gaa gtc gac ccc gac ggc gcc gtc ggc cga
 811 - gcg ctg tgc ctg gcc atc gac cca gat cta
 841 - ctc atc acc gtc aat gcg atg acc ggc ggc
 871 - tac gtc gtg tcc gac tcg ccc gac ggg gcc
 901 - gct caa cta ccg ggc acc ccg acc cac ccg
 931 - ggc acc ggc cag gcc gcc gca tcc agc tgg
 961 - ctg gat cga ttg cgg acg cta gtc cac cgg
 991 - aca tgc gtg acg ccg ctg cct ttt gcc caa
 1021 - gcc gac ctg gat gct ttg cag cgg gtt aat
 1051 - gat ccg agg ctg agc gcg atc gca acc atc
 1081 - agc ccc gcc gac atc gtc gac cgc atc ctg
 1111 - gat gtc agc tcc acc cgc ggc gca acc gtg
 1141 - ctg ccc gac ggc ccg ttg acc ggc cgg gcg
 1171 - atc aac ttg ctc agc acc cac ggc aac acg
 1201 - gtt gcc gtc gcg gcc gcc gat ttt agc ccc
 1231 - gag gaa cag cag ggt tcg tcc cag atc ggc
 1261 - tcc gcg ctc tta ccc gct acc gcg ccc cgg
 1291 - cgg ttg tcc ccg cgg gtg gta gcg gcg ccg
 1321 - ttt gat ccc gcg gtc ggg gcc gcg ctg gcc
 1351 - gcc gcg gga aca aac ccg acc gtt cct acc
 1381 - tat cta gat ccc tcg ttg ttc gtc cgg atc
 1411 - gcg cat gaa tcg atc acc gcg cgc cgc cag
 1441 - gac gcc ttg ggc gca atg ctg tgg cgc agc
 1471 - ttg gag ccg aat gcc gcg ccc cgt acc caa
 1501 - atc ctg gtg ccg ccg gcg tcg tgg agc ctg

SEQ ID NO: 22

Location 1=4.394.192

Direction (+)

FIGURE 7B

1531 - gcc agc gac gac gcg cag gtc atc ctg acc
 1561 - gcg ctg gcc acc gcc atc cgg tct ggc ctg
 1591 - gcc gtg ccg cga cca cta ccg gcg gtg atc
 1621 - gct gac gcc gcg gcc cgc acc gag cca ccg
 1651 - gaa ccc ccg ggc gct tac agc gcc gct cgc
 1681 - ggc cgg ttc aat gac gac atc acc acg cag
 1711 - atc ggc ggg cag gtt gcc cgg cta tgg aag
 1741 - ctg acc tcg gcg ttg acc atc gat gac cgc
 1771 - acc ggg ctg acc ggc gtg cag tac acc gca
 1801 - cca cta cgc gag gac atg ttg cgc gcg ctg
 1831 - agc caa tcg cta cca ccc gat acc cgc aac
 1861 - ggg ctg gcc cag cag cgg ctg gcc gtc gtt
 1891 - gga aag acg atc gac gat ctt ttc ggc gcg
 1921 - gtg acc atc gtc aac ccg ggc ggc tcc tac
 1951 - act ctg gcc acc gag cac agt ccg ctg ccg
 1981 - ttg gcg ctg cat aat ggc ctc gcc gtg cca
 2011 - atc cgg gtc cgg cta cag gtc gat gct ccg
 2041 - ccc ggg atg acg gtg gcc gat gtc ggt cag
 2071 - atc gag cta ccg ccc ggg tac ctg ccg cta
 2101 - cga gta cca atc gag gtg aac ttc aca cag
 2131 - cgg gtt gcc gtc gac gtg tcg ctg cgg acc
 2161 - ccc gac ggc gtc gcg ctg ggt gaa ccg gtg
 2191 - cgg ttg tcg gtg cac tcc aac gcc tac ggc
 2221 - aag gtg ttg ttc gcg atc acg cta tcc gct
 2251 - gcg gcc gtg ctg gta acg ctg gcg ggc cgg
 2281 - cgc ctt tgg cac cgg ttc cgt ggc cag cct
 2311 - gat cgc gcc gac ctg gat cgc ccc gac ctg
 2341 - cct acc ggc aaa cac gcc ccg cag cgc cgt
 2371 - gcc gta gcc agt cgg gat gac gaa aag cac
 2401 - cgg gta

tgagaccctcccctggagaggtgcccacggcatcgcaga
 ggcagcccagctgtccgacgcggcgctggtatcgcaact
 cctgggcaatggcattcgcgacgctgatcagccggatca
 ccggctttgcccggatcgctgctggtggccgcgatcttag
 gtgcggcgctggccagctcgttctcggtggccaaccagc
 tgccg

FIGURE 7C

>Rv3909 ORF: 2406 bp - *M. tuberculosis* -
gtgaccgcactgcaactcggctggggccgcttttggcgcgctcacctcagcgatcggcgctc
gtggcccgccctcgggatggcgctcacggtaccgctcggcgccaccgcacgcgctcgcaggc
gagcccagcccagcgccttttgtccaggctccgcatcgatcagggtgaccccgacgtgggtg
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ccagtcgcgcatgtgatggctccggcttgagcacgcccgcgggtcacgtcgtcaacggcg
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cgcttttggcaccgggttccgtggccagcctgatcgcgccgacctggatcgccccgacctg
cctaccggcaaacacgccccgacgcgcgctgcccgtagccagtcgggatgacgaaaagcac
cgggta

SEQ ID NO: 32